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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

NGUYEN, T

ART UNIT PAPER NUMBER

2775

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/777,557

Applicant(s)
Daniel Wilde

Examiner
Thu Nguyen

Group Art Unit
2775



☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-21 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-21 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2 and 3

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Accad (U.S. Patent No. 5553200).

As per claim 1, Accad teaches a method for dithering color in a graphics system that displays a group of pixels. The color of the pixels is represented by color shades having fewer than eight bits. The method comprises the steps of:

Generating an eight bit color shade for each pixel representing the desired color for the pixel (col.7, lines 60-64);

Truncating the desired eight bit color shade to obtain a truncated color shade (col.8, lines 4-8).

Generating FRAC and ramp value $I'(i,j)$ for each pixel, the ramp value encodes a discrepancy between the desired eight bit color and the truncated color shade value (col.12, lines 1-45).

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Using the ramp value to select a color shade value of fewer than eight bits that determines the color of each pixel (col.12, lines 48-60 and col.13, lines 21-36).

Even though Accad does not teach a binary ramp value and selecting one bit in the ramp value to determine the color shade of less than eight bits for each pixel, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to realize that the $I''(i,j)$ value is, in fact, the claimed FRAC value which is expressed in decimal form and is normalized. Details disclosed at col.13, lines 14-35 suggest that by matching the $I''(i,j)$ with the threshold array, the ramp value $I''(i,j)$ provides the same purpose of determining color shade value of less than eight bits for the pixels as the claimed FRAC and ramp value would perform. The value $I''(i,j)$ taught by Accad could, therefore, be viewed as similar to either the FRAC or the ramp values as claimed.

As per claim 2 and 3, Accad teaches a general way to create the color bit truncation, the truncated bit can be any number of bits (col.8, lines 1-8). Accad, therefore, includes the number of truncated bits are three least significant bits or fewer than two least significant bits.

As per claim 4 and 5, Accad teaches a look up table, the output from the table is used to select the color shade value for a pixel. Each pixel has an x, y address and the address is used to determine the color shade value of the pixel (col.13, lines 21-36 and 61-67; col.14, lines 1-24). Even though the look up table taught by Accad provides the color shade value for the pixel

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instead of the selected bit from the ramp value as claimed, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to recognize that the purpose of selecting a bit from the ramp value is to determine the color shade value of a pixel, the claimed look up table, therefore, performs the same function as the look up table taught by Accad.

As per claim 6, refer to discussion in claim 1 above for the claimed step a-d.

Accad, further, teaches producing addend value for incrementing the first color shade value (d) and incrementing the first color shade value by addend value to produce a second color shade value (d+1) and selecting the first color shade value or second color shade value to determine the color of each pixel (col.13, lines 21-35).

As per claim 7-9, refer to discussion in claim 1, 4-5 and 6 for the ramp value , the selecting first or second shade value and look up table as claimed.

As per claim 10-11, even though Accad does not explicitly teach the overflow condition, the claimed overflow signal would have been included in the selecting first or second color shade steps as taught by Accad (col.13, lines 21-35).

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As per claim 12-21, since Accad teaches a method to provide color bit representation having fewer than eight bits, as discuss in claims 1-11 above, he must provide the apparatus to perform the function as claimed.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 308-6606 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The examiner can normally be reached on Monday-Thursday from 8:00 am to 5:00 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached on (703) 305-9720. The fax phone number for this Group is (703)308-6606 .


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached on (703) 305-9720. The fax phone number for this Group is (703)308-6606 .

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)305-3900.

TVN

August 21, 1998


STEVEN J. SARAS
SUPERVISORY PATENT EXAMINER
GROUP 2700